

ABSTRACT OF THE DISCLOSURE

The adjustable to a user's upper extremity the exoskeleton structure provides testing and exercising of the whole upper extremity in a realistic manner without infringement of a locomotor act and with selective biomechanical information and exercise loading in each anatomical motion direction of every joint simultaneously. The exoskeleton structure comprises jointed means for connection with a user's shouldergirdle, upperarm, forearm, and hand. Those means include measuring-loading blocks to measure muscle forces and joint angles and to apply a dosed exercise load. All measuring-loading blocks in the exoskeleton structure are identical. The exoskeleton structure is able to provide a realistic and comprehensive information about both a complex locomotor act and a selective mono-planar motion for both isometric and isotonic muscular contractions.